Pregnancy in diabetes: success or failure?

Twenty five years after the discovery of insulin, perinatal mortality for diabetic pregnancies was approximately 30 %: many women at the time were discouraged from having families and some risked just a single pregnancy. It is one of the greatest achievements of modern medicine that the outlook for these pregnancies improved to the point during the 1980s when it appeared that fetal mortality was approaching that in the normal population, and led the St Vincent declaration to aim for exactly that.

Two recent surveys of insulin dependent diabetic patients from Liverpool[1] and the north of England[2] demonstrate that the present reality is still very far from ideal and very similar findings from both areas show that the perinatal mortality is still 48 per thousand compared to less than 10 per thousand for women without diabetes and that the major congenital malformation rate is 80 to 90 per thousand whereas it is much lower at 10 to 20 per thousand in controls. The still birth rate too is raised from about five to over 20 per thousand in diabetes.

Macrosomia is another problem of the diabetic pregnancy which has altered little over several decades, despite considerable improvements in standards of diabetic control. Fetal growth accelerates in the third trimester and birthweights still exceed the 97th centile in 30 % of the deliveries of our Type 1 diabetic patients at King's, and in 20 % of the deliveries in those with gestational diabetes. The high pre-term delivery rate and the large number of Caesarian sections (between 60 and 70 % compared to 10–20 % in the non-diabetic population) are no doubt the result of macrosomia on the one hand but may also arise from anxieties for fetal health which result from the intensive fetal monitoring to which pregnant women are not normally subjected. There is also the self-perpetuating effect, namely that subsequent deliveries are normally also by Caesarian section after the first event.

The presence of diabetic complications during pregnancy adds another dimension to the complexity of management in these cases. At least the outlook for those with proteinuria from nephropathy has undergone a truly dramatic improvement from the years of serious gloom to the present, when most of the babies will survive. This success is tinged by the difficulties in managing the pregnancy itself, with hypertension and oedema as serious problems; and by the early delivery of many very small babies, resulting in some instances in mental or physical handicap. Most pregnancies in renal diseases generally succeed if serum creatinine is less than 124 μmol/L; when it is greater than 200 μmol/L however the outcome is poor and pregnancy should be strongly discouraged.[3,4] The implications for the mother's future also needs consideration. The progression of retinopathy can also present problems, especially in those with nephropathy; regular examination is needed and some patients will require laser treatment during pregnancy.[4]

Detection of gestational diabetes and its management present many questions and controversies and is often the subject of the iconoclast.[5] At present, best practice[6] decrees that antenatal clinics should have in place arrangements for its detection and subsequent management despite lack of clear evidence that this may influence the outcome. By present criteria, about half of our patients at King's need insulin during the pregnancy, 20 % remain diabetic after the pregnancy, and more than 50 % are expected to develop diabetes later in life. There is a high risk of diabetes in the 60–70 % of women with gestational diabetes in some urban centres who are from ethnic minorities,[4] where language difficulties and social deprivation can add to the problems of pregnancy and certainly require attention.

What should be done to improve still further the outlook for pregnancy in people with diabetes? First, it is essential that these patients must be seen in joint diabetic ante-natal clinics in units of sufficient size to gain appropriate experience, and which have access to the necessary facilities including a good neonatal unit. Clinic staff should include the diabetes physician and an obstetrician with a special interest in the subject, and all local diabetic patients should be referred to this joint clinic. The contribution of diabetes specialist nurses and midwives is also essential. Attention to detail of diabetes management is crucial. But for many this will be too late. Some method of improving pre-pregnancy counselling rates, at present achieved in only 25–33 % of patients, must be given a higher priority to reduce congenital malformation rates. Patients whose progress is less than ideal may need hospital admission more readily than in the past; and complications such as proteinuria and retinopathy must be carefully scrutinised. Regular assessment of fetal growth is an integral part of management needed to detect the development of macrosomia and determine the appropriate timing and mode of delivery. The BDA recently audited facilities for management of diabetic pregnancy and their report should be examined carefully.[7] There is nothing new in any of these recommendations, only that they must be meticulously followed if the outlook for these pregnancies is to improve.

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